CHBE 501
Fall 2020
Fluid Mechanics and Transport
Schedule: MWF 8:30-9:25 Online

I. Course Objective

To introduce and develop the fundamentals of fluid mechanics and methods to solve problems involving fluid flow and transport.

II. Teaching Staff

Instructor: Fred MacKintosh, Professor, Chemical and Biomolecular Engineering.
Office located in BRC room 1000.
Email: fcmack@rice.edu
Office Hours: after class on Wednesdays and by appointment.

III. Textbook and Resources

The following textbook (available through the campus bookstore and online stores) is required:
Deen, W. M. *Analysis of Transport Phenomena*. Oxford University Press, New York: 1998. 2ndEdition.
For an additional reference on vectors, tensors and calculus of multiple variables, I suggest these *optional* texts:
Aris, R. *Vectors, Tensors, and the Basic Equations of Fluid Mechanics*. Dover
https://www.amazon.com/Vectors-Tensors-Equations-Mechanics-Mathematics/dp/0486661105 (Links to an external site.)
A more introductory approach can be found in
Fleisch, D. *A Student's Guide to Vectors and Tensors.* Cambridge
https://www.amazon.com/Students-Guide-Vectors-Tensors-Guides/dp/0521171903 (Links to an external site.)

IV. Grading

Grading will be determined by a combination of homework assignments (40 %), one midterm exam (25 %), and a final exam (35 %).

V. Homework

Homework turned in late will be penalized 50%. After solutions are posted, late homework will no longer be accepted.
Problem Session: to be determined.

VI. Exams

To be determined
Course Summary:

Date	Details	
Mon Aug 24, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Aug 26, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Fri Aug 28, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Aug 31, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Sep 2, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
	Assignment Homework 1	due by 5pm
Wed Sep 9, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Fri Sep 11, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Sep 14, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Sep 16, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Sep 21, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am

Date	Details	
Wed Sep 23, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Sep 28, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Sep 30, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Oct 12, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Oct 14, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Oct 19, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Oct 21, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Oct 26, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Oct 28, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Nov 2, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Nov 4, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am

Date	Details	
Mon Nov 9, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Nov 11, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Mon Nov 16, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am
Wed Nov 18, 2020	Calendar Event CHBE 501 001 F20	8:30am to 9:30am

Prev monthNext monthSeptember 2020

Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30 August 202030Previous month	31 August 202031Previous monthClick to view event details	1 September 20201Today	2 September 20202Click to view event details	3 September 20203	4 September 20204	5 September 20205
6 September 20206	7 September 20207	8 September 20208	9 September 20209Click to view event details	10 September 202010	11 September 202011Click to view event details	12 September 202012

Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
13 September 202013	14 September 202014Click to view event details	15 September 202015	16 September 202016Click to view event details	17 September 202017	18 September 202018	19 September 202019
20 September 202020	21 September 202021Click to view event details	22 September 202022	23 September 202023Click to view event details	24 September 202024	25 September 202025	26 September 202026
27 September 202027	28 September 202028Click to view event details	29 September 202029	30 September 202030Click to view event details	1 October 20201Next month	2 October 20202Next month	3 October 20203Next month
4 October 20204Next month	5 October 20205Next month	6 October 20206Next month	7 October 20207Next month	8 October 20208Next month	9 October 20209Next month	10 October 202010Next month

Course assignments are not weighted.